

Title (en)

METHOD OF PREPARING OPTICALLY IMAGED HIGH PERFORMANCE PHOTOMASKS

Title (de)

VERFAHREN ZUR HERSTELLUNG VON OPTISCH BEBILDERTEN HOCHLEISTUNGSPHOTOMASKEN

Title (fr)

PROCEDE DE PREPARATION DE PHOTOMASQUES A PERFORMANCE ELEVEE A IMAGE OPTIQUE

Publication

**EP 1410106 A1 20040421 (EN)**

Application

**EP 02747035 A 20020716**

Priority

- US 0222609 W 20020716
- US 91211601 A 20010723

Abstract (en)

[origin: WO03010601A1] One principal embodiment of the disclosure pertains to a method of optically fabricating a photomask using a direct write continuous wave laser, comprising a series of steps including: applying an organic antireflection coating over a surface of a photomask which includes a chrome-containing layer; applying a chemically-amplified DUV photoresist over a specific temperature range; exposing a surface of the DUV photoresist to the direct write continuous wave laser; and, post exposure baking the imaged DUV photoresist over a specific temperature range. The direct write continuous wave laser preferably operates at a wavelength of 244 nm or 257 nm. In an alternative embodiment, the organic antireflection coating may be applied over an inorganic antireflection coating which overlies the chrome containing layer.

IPC 1-7

**G03F 1/08**; **G03F 7/09**; **G03F 7/16**

IPC 8 full level

**G03F 7/038** (2006.01); **G03F 1/46** (2012.01); **G03F 1/68** (2012.01); **G03F 7/039** (2006.01); **G03F 7/11** (2006.01); **G03F 7/16** (2006.01); **G03F 7/20** (2006.01); **G03F 7/38** (2006.01); **H01L 21/027** (2006.01); **G03F 7/09** (2006.01)

CPC (source: EP KR US)

**G03F 1/46** (2013.01 - EP US); **G03F 1/50** (2013.01 - EP US); **G03F 1/76** (2013.01 - EP US); **G03F 7/00** (2013.01 - KR); **G03F 7/168** (2013.01 - EP US); **G03F 7/091** (2013.01 - EP US); **Y10S 430/146** (2013.01 - EP US); **Y10S 430/151** (2013.01 - EP US)

Citation (search report)

See references of WO 03010601A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR

DOCDB simple family (publication)

**WO 03010601 A1 20030206**; EP 1410106 A1 20040421; JP 2005507090 A 20050310; KR 20040030853 A 20040409; TW 565740 B 20031211; US 2003027083 A1 20030206; US 2004146790 A1 20040729; US 6703169 B2 20040309; US 6998206 B2 20060214

DOCDB simple family (application)

**US 0222609 W 20020716**; EP 02747035 A 20020716; JP 2003515914 A 20020716; KR 20047001083 A 20020716; TW 91116412 A 20020723; US 75882704 A 20040115; US 91211601 A 20010723